

# Postdoctoral Position in Transportation Engineering and Economics

December 1, 2023

## Context

METROPOLIS is a dynamic transport simulator, used by researchers and public organizations such as the Société du Grand Paris for project evaluation. This simulator is currently in development at THEMA, a research laboratory in economics at CY Cergy Paris Université.

## Tasks

- Review the academic literature and studies on modelling and draw up a summary to serve as a starting point (regions considered: Ile-de-France, Lille Métropole, Strasbourg, .....).
- Model and develop extensions for METROPOLIS (public-transit routing with GTFS data, pollutant emissions, road maintenance, etc.).
- Calibrate and run the simulator on different regions.
- Draw graphs and maps of the simulator's output.

## Qualifications

- Doctoral degree in computer science, engineering or economics
- Advanced knowledge in Python; knowledge in Rust is appreciated
- Knowledge in GIS software (e.g., QGIS)
- Knowledge in graph theory (shortest path algorithms, isochrone, etc.)
- Knowledge of the GTFS data format
- Proficiency in French and English

## **Position summary**

- Contract: full-time postdoctoral position
- Duration: 12 months with a possible extension of another 12 months
- Salary: according to the diploma and past experience
- Location : CY Cergy Paris Université, Cergy
- Start date: as soon as possible

## **Application procedure**

Send your resume, letter of motivation to [andre.de-palma@cyu.fr](mailto:andre.de-palma@cyu.fr)